

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

In the Matter of	)	
	)	
Amending the Definition of	)	GN Docket No. 11-117
Interconnected VoIP Service in Section 9.3	)	
of the Commission's Rules	)	
	)	
Wireless E911 Location Accuracy	)	PS Docket No. 07-114
Requirements	)	
	)	
E911 Requirements for IP-Enabled Service	)	WC Docket No. 05-196
Providers	)	
	)	

**REPLY COMMENTS OF SKYPE COMMUNICATIONS S.A.R.L.**

Staci L. Pies  
*Director, Government and  
Regulatory Affairs – North America*  
Christopher D. Libertelli  
*Senior Director, Government and  
Regulatory Affairs –The Americas*  
SKYPE COMMUNICATIONS S.A.R.L.  
6e etage, 22/24 boulevard Royal,  
Luxembourg, L-2449 Luxembourg

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## SUMMARY

Skype urges the Commission not to expand emergency calling requirements to non-interconnected VoIP such as outbound-only VoIP, as the record provides no evidence that such voice applications and products are being used as replacements for regular phone service. The overriding policy goal of the Commission's emergency calling policies to date has been to ensure that consumers had access to emergency services where providers sold consumers a primary-line connection to the PSTN, resulting in consumers expecting the ability to dial 911, reach emergency services, and be located by first responders. Extending emergency calling obligations to non-interconnected products, as discussed in the *Notice*, would upset this reasonable approach by extending emergency calling obligations to new technologies that do not serve as such primary PSTN connections. As the Commission continues its efforts to foster development and deployment of a next generation 911 network, it must be careful not to shift its focus — and the focus of the IT industry that is deploying next generation communications technologies — away from NG911.

There are two main reasons why it would be unwise and potentially harmful to subject outbound-only VoIP products to emergency calling requirements. First, outbound-only VoIP products and other one-way, non-interconnected products do not replace “regular” telephone service, which since the 2005 *IP-Enabled E911 Order* has been the Commission's standard for

analyzing whether a service should be subject to emergency calling requirements. Second, even if the Commission were to decide that outbound-only VoIP products should be subject to emergency calling requirements, there are significant technical and operational challenges that would keep providers of such services from providing accurate location and callback information to PSAPs. Given these challenges, the Commission runs the risk of harming consumers if it were to require an emergency calling solution for outbound-only VoIP services that would not be as reliable and accurate as existing emergency calling solutions that consumers access via wireline and wireless phones.

In order to provide evidence regarding consumer use and expectations regarding Skype and emergency calling, Skype engaged a third-party public policy and market research firm to conduct a detailed survey of Skype users. The results of the survey concluded that Skype is not a replacement phone service and is not viewed as such by Skype users. Consumers do not use Skype as an ordinary phone service; instead, they use Skype to complement their primary means of communication, most typically to place international calls. It is for this reason that almost all Skype users — 99% — have access to either a cell phone or landline at the location at which they use Skype, and Skype users are very unlikely to use Skype for emergency calling even if Skype began offering such capability.

Finally, for outbound-only VoIP applications used on a smartphone, Skype supports a requirement that no application should interfere with a consumer dialing 911, so that wireless users can take advantage of their handsets' existing emergency calling capability. Consumers should be able to utilize their handset's existing E911 capability, and any voice applications running on such devices should be designed to hand off 911 calls to the underlying CMRS network to place the emergency call. The Commission's policies should push consumers toward the most reliable and effective way of placing an emergency call — here, the underlying CMRS E911 network rather than the much more unreliable wireless broadband network.

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**REPLY COMMENTS OF SKYPE COMMUNICATIONS S.A.R.L.**

Skype Communications S.A.R.L. ("Skype")<sup>1</sup> hereby files these reply comments in response to the Second Further Notice of Proposed Rulemaking and the Notice of Proposed Rulemaking ("*NPRM*" or "*Notice*") in the above-captioned proceedings.<sup>2</sup> Skype urges the Commission not to expand emergency calling requirements to non-interconnected VoIP such as outbound-only VoIP, as the record provides no evidence that such voice applications and products are being used as replacements for regular phone service. Rather than attempt to

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<sup>1</sup> On October 13, 2011, Microsoft closed its acquisition of Skype. Accordingly, Skype is now a wholly-owned subsidiary of Microsoft Corporation.

<sup>2</sup> *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196, FCC 11-107 (rel. July 13, 2011).

shoehorn innovative, new technologies into legacy E911 rules, the Commission should focus its efforts on working with the IT industry to develop and deploy a next generation 911 network.

## **I. APPLYING LEGACY EMERGENCY CALLING RULES TO NEW TECHNOLOGIES WILL STIFLE INNOVATION**

Throughout its history of implementing emergency calling rules, the Commission has rightly considered how changes in technology and competition have altered the way consumers received telephone services and reached public safety responders by dialing 911. For example, as technology enabled new sources of competition in the wireline market, the Commission limited emergency calling obligations to the consumer's primary connection provided by a local exchange carrier, and did not extend such obligations to long distance providers. When wireless technologies offered a wireless phone service that provided a new source of competition to consumers' primary, fixed-line service, and when consumers began using this service extensively to place 911 calls, the Commission rightly set the wireless industry on a course to provide E911.<sup>3</sup>

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<sup>3</sup> *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 94-102, RM-8143, FCC 96-264, 11 FCC Rcd 18,676 (1996) ("*Wireless E911 Order*"). When the Commission first proposed E911 requirements for wireless carriers in 1994, it cited one estimate that as many as 10 percent of 911 calls in major metropolitan areas originated from mobile subscribers. *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Notice of Proposed Rulemaking, CC Docket No. 94-102, RM-8143, FCC 94-237, 9 FCC Rcd 6170, 6172 (1994) ("*Wireless E911 NPRM*"). In addition, when the Commission adopted E911 requirements for wireless carriers in 1996, it cited a survey that found that "62 percent of cellular users

The overriding policy goal in each of these instances was to ensure that consumers had access to emergency services where providers sold consumers a primary-line connection to the PSTN, resulting in consumers expecting the ability to dial 911, reach emergency services, and be located by first responders. Extending emergency calling obligations to non-interconnected products, as discussed in the *Notice*, would upset this reasonable approach by extending emergency calling obligations to new technologies that do not serve as such primary PSTN connections. Reversing course by expanding the definition of interconnected VoIP would upset settled consumer expectations, as well as the expectations of Skype and other members of the IT industry that have innovated in the non-interconnected VoIP space since 2005.<sup>4</sup>

The technologies enabling VoIP are merely that — technologies that can be used to provide an array of capabilities to consumers. The Commission should not be fooled into viewing all VoIP products simply as substitutes for PSTN service, rather than as broadband applications that serve a variety of consumer needs. The record in the *E911 Requirements for IP-Enabled Service Providers* proceeding shows that some providers are using VoIP to compete for primary line connections, and incumbent cable and telcos are using VoIP

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cited safety and security as their main reason for purchasing a mobile phone.” *Wireless E911 Order*, 11 FCC Rcd at 18,680.

<sup>4</sup> Comments of the Information Technology Industry Council at 4-5 (discussing settled expectations of consumers and industry based on the Commission’s 2005 Order adopting E911 rules for providers of interconnected VoIP) (“ITI Comments”).



technologies to deliver primary line service as well as to create new features for their existing products.

In contrast, Skype has chosen to innovate in such areas as high-definition voice and video while making a conscious decision to not merely use VoIP technologies to clone established telephony services. Instead, Skype provides consumers with additional choices as a complement to an Internet connection, offering video calling, group video calling, high-definition audio conferencing, integration with social networks, speech-to-text, chat, file transfer, online payments, etc. Seen in this light, the PSTN-connected features Skype offers (*e.g.*, Skype outbound calling and online numbers), which the *Notice* focuses on, are merely two features amongst many. They were not designed to replace a consumer's primary connection to the PSTN, as Skype makes clear in the many disclaimers it advertises at every step of its interaction with consumers.

As the Commission continues its efforts to foster development and deployment of a next generation 911 network, it must be careful not to shift its focus — and the focus of the IT industry that is deploying next generation communications technologies — away from NG911.<sup>5</sup> The Commission has a clear choice in this proceeding: continue its successful implementation of the emergency calling rules for legacy networks and direct the industry's efforts toward NG911, or redirect investments that could be used for a next-generation capability toward shoehorning new technologies into the existing, narrowband

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<sup>5</sup> Comments of the Voice on the Net Coalition at 8-9 ("VON Coalition Comments").

E911 rules. Skype respectfully submits, as described below, that pursuing the latter choice is not in the public interest.

## **II. ONE-WAY VOIP SERVICES LIKE SKYPE OUTBOUND CALLING ARE NOT REPLACEMENTS FOR “REGULAR” TELEPHONE SERVICE AND SHOULD NOT BE SUBJECT TO EMERGENCY CALLING RULES**

Skype agrees with the numerous commenting parties who argue that one-way VoIP and other non-interconnected VoIP products such as outbound-only VoIP should not be subject to emergency calling requirements.<sup>6</sup> There are two main reasons why it would be unwise and potentially harmful to subject outbound-only VoIP products to emergency calling requirements.<sup>7</sup> First, as discussed in this Section, outbound-only VoIP products and other one-way, non-interconnected products do not replace “regular” telephone service, which since the 2005 *IP-Enabled E911 Order* has been the Commission’s standard for analyzing whether a service should be subject to emergency calling

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<sup>6</sup> Comments of the National Cable & Telecommunications Association at 10-12 (“NCTA Comments”); Comments of Vonage Holdings Corp. at 12-15 (“Vonage Comments”); ITI Comments at 6-12; VON Coalition Comments at 3-9; Comments of Verizon and Verizon Wireless at 5 (noting that Congress has recognized that 911 rules should apply to VoIP services only as they “become widely accepted and fungible substitutes for telephony” and that not all outbound-only services will meet this high standard”) (“Verizon Comments”).

<sup>7</sup> Skype also endorses the arguments made by Vonage with respect to the Commission’s lack of legal authority under the NET 911 Improvement Act to amend the definition of “interconnected VoIP” to include outbound-only VoIP products. Vonage Comments at 4-9.

requirements.<sup>8</sup> Second, as discussed in Section III, even if the Commission were to decide that outbound-only VoIP products should be subject to emergency calling requirements, there are significant technical and operational challenges that would keep providers of such services from providing accurate location and callback information to PSAPs.<sup>9</sup> Given these challenges, the Commission runs the risk of harming consumers if it were to require an emergency calling solution for outbound-only VoIP services that would not be as reliable and accurate as existing emergency calling solutions that consumers access via wireline and wireless phones.<sup>10</sup>

As an initial matter, as the Commission considers emergency calling requirements in this proceeding, Skype urges it to rely on whether consumers are replacing their regular phone services with outbound only VoIP products, and not on consumer expectations which in some instances may not be reasonable or consistent with technological reality. Indeed, particularly given the technical challenges that persist with respect to robust E911 solutions for many IP-enabled

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<sup>8</sup> *IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*; First Report and Order and Notice of Proposed Rulemaking; WC Docket Nos. 04-36 & 05-196, FCC 05-116, ¶ 23 (rel. June 3, 2005) (“*2005 VoIP E911 Order*”) (noting that consumers expect that interconnected VoIP services “function in some ways like a ‘regular telephone’ service.”); Vonage Comments at 12 (“Vonage disagrees ... that *non-interconnected*, outbound-only VoIP services either substitute for traditional telephone service or generate consumer expectations that they will have 911 functionality.”); ITI Comments at 3-5.

<sup>9</sup> ITI Comments at 9-10, 14-16; Vonage Comments at 14-15.

<sup>10</sup> Vonage Comments at 14 (“Public safety will not benefit if consumers are induced to use less reliable 911 calling solutions instead of established wireless or wireline 911 services.”); ITI Comments at 7.

voice services, the Commission has a responsibility to shape consumer expectations so as not to promote unrealistic expectations on the part of consumers with respect to emergency calling capabilities.

The Commission drew a sensible line when it first adopted emergency calling requirements for providers of “interconnected VoIP,” defined as services that, among other characteristics, enabled users to place calls to and receive calls from the PSTN. The Commission’s interconnected VoIP definition appropriately limited the Commission’s rules to those services that replace “regular” phone service, and for which consumers would reasonably expect emergency calling capability. The Commission’s 2005 definition led to market certainty, where voice services that replaced traditional PSTN connections were subject to an emergency calling requirement, while non-interconnected IP-enabled services that served as complements to existing wireline and wireless subscriptions were not saddled with unnecessary regulations, enabling continued innovation and investment in these ‘long tail’ voice services.<sup>11</sup> The definition led to certainty not only for providers and developers of IP-enabled services and products, but also

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<sup>11</sup> Skype’s ‘long tail’ revenue model collects a relatively small amount of money from each user across a large, global user base. Because of the differences between telco business models and Skype, Skype’s paid products exist in a very different economic environment compared to traditional replacement telephony services. Replacement telephony services are characterized by relatively high average revenue per user (ARPU) and relatively inelastic demand whereas Skype’s paid products are characterized by relatively low ARPU and relatively elastic demand compared to replacement telephony. This means that relatively small changes in price lead to relatively large changes in demand for Skype’s paid products. Loading legacy regulatory costs on ‘long tail’ voice products and services will therefore have a particularly negative effect because these products are less able to recover these costs without raising prices and suppressing demand.

for consumers who developed a well-founded expectation that services they acquired that replaced their existing PSTN connections would “function in some ways like a ‘regular telephone’ service.”<sup>12</sup>

Requiring outbound-only voice applications to provide E911 capability would upset these well-settled consumer and industry expectations and would depart from the Commission’s existing standard wherein only those IP-enabled services that are designed as and replace regular phone services would be required to provide emergency calling capability. Several parties argue that outbound-only VoIP should be subject to an emergency calling requirement, but provide no support for the position that such one-way, non-interconnected services are replacements for traditional or regular phone services or that consumers expect them to provide E911 capabilities.<sup>13</sup> NCTA, on the other hand, correctly frames the issue, the questions the Commission should ask, and the conclusion the Commission should reach:

[I]t is unclear whether consumers reasonably expect to be able to place 911 calls using outbound-only VoIP. Skype has been marketing its outbound VoIP application for years and has millions of users, notwithstanding the fact that it makes clear to all users that this application is not a replacement for the user’s telephone and cannot be used for emergency calling. To determine whether consumers have a reasonable expectation that 911 service would be available via an outbound-only VoIP service, the Commission

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<sup>12</sup> 2005 *VoIP E911 Order*, ¶23.

<sup>13</sup> Comments of APCO International at 2-3 (“APCO Comments”); Comments of the National Emergency Number Association at 1-4 (“NENA Comments”); Comments of Sprint Nextel Corp. at 2-3 (“Sprint Comments”); Comments of MetroPCS Communications, Inc. at 10-11 (“MetroPCS Comments”).

should analyze data regarding the extent to which users of outbound-only VoIP applications also have either CMRS service, landline phones, or interconnected VoIP service (as currently defined under the Commission's rules). It is likely that the great majority of users have such alternatives and use an outbound-only VoIP application only as a supplemental service that provides a lower-cost alternative or is integrated with some other feature, such as video calling capability. Such users can be expected to continue to rely on their CMRS, interconnected VoIP service or landline phone to make 911 calls. Imposing 911 requirements on yet another technology — particularly a technology that is still evolving and for most people supplements but does not replace their CMRS and/or landline phones — would appear to be unnecessary.<sup>14</sup>

The remainder of this Section discusses in some detail why outbound-only VoIP products and applications such as Skype are not replacements for traditional PSTN subscriptions and, rather, serve as complements to such services.

**A. IP-Enabled Applications and Products Such As Skype Offer a Variety of Features Different From Those of Traditional Telephone Services, And Lack Important Features That Keep Them from Serving as Replacements for Such Traditional Services**

The *Notice* and its discussion of voice applications is myopic. In its discussion of outbound-only VoIP in the *Notice*, the Commission appears to view such products solely in terms of their ability to enable calls to the PSTN rather than considering the full suite of features applications such as Skype provide. For example, the *Notice* discusses the number of Skype users in the United States,

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<sup>14</sup> NCTA Comments at 11 (citations omitted).

the number of paying Skype users worldwide, and Skype's domestic revenues, but fails to discuss the characteristics of Skype's products, makes no attempt to analyze or understand how consumers actually use Skype and, thus, fails to address whether Skype is or could reasonably be viewed as a replacement for "regular" phone service.<sup>15</sup>

As the VON Coalition noted in its comments:

[G]rowing *demand* for one-way VoIP service is different than changing *characteristics* or reasonable consumer expectations of those services and does not mean that consumers perceive those services as a replacement for their telephone service. Consumers can have expectations for one-way VoIP offerings that are different from their expectations for existing telephone service. Today consumers are more likely to purchase and use one-way VoIP services for purposes such as lowering their international calling costs or for click to call from websites, than to replace their wireline and mobile telephones. In fact, the rapid adoption of one-way VoIP products suggests *not* that consumers expect these products to act like a phone service, but rather that non-PSTN features such as video calling, presence, instant messaging and screen sharing provide a compelling reason to use these innovative services as a complement or incidental to, rather than as a replacement for, traditional phone service.<sup>16</sup>

As discussed in greater detail below, the reality is that Skype offers its users a variety of features that differ from traditional PSTN connectivity. Skype users use the application primarily to make computer-to-computer voice and

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<sup>15</sup> Notice at 18, ¶ 45. Similarly, APCO merely cites the number of outbound-only VoIP users without discussing how such users are using these services. APCO Comments at 2-3.

<sup>16</sup> VON Coalition Comments at 4.

video calls — indeed, approximately 42 percent of all Skype communications are video calls.<sup>17</sup> Typical and well-known Skype use cases include users making video calls to distant friends and family or foreign language tutors who live overseas, guests calling in to popular talk shows,<sup>18</sup> guest lecturers or speakers calling into classrooms, etc. Skype also offers its users other features such as presence, file sharing, group voice and video calls, and online payments. In addition to these features that have made Skype such a popular communications software application worldwide, Skype also enables users to place calls from Skype to PSTN numbers. However, this outbound-only PSTN calling feature merely complements the other, more popular Skype features, by enabling inexpensive calls to — in most cases — international phone numbers. Unlike services that meet the existing interconnected VoIP definition, users simply do not view or use Skype as a replacement for their traditional phone services — as described in detail below. Indeed, only 8.1 million of Skype’s 560 million registered users worldwide use Skype’s paid services, which include outbound PSTN calling.

In addition, by definition, outbound-only VoIP products do not enable users to receive PSTN calls. A defining characteristic of “regular” phone service

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<sup>17</sup> See [http://blogs.skype.com/en/assets\\_c/2011/10/final%20infographic%20image-20715.html](http://blogs.skype.com/en/assets_c/2011/10/final%20infographic%20image-20715.html).

<sup>18</sup> See *The Oprah Factor: Skype Edition*, National Journal Tech Daily Dose Blog, January 14, 2009, at <http://techdailydose.nationaljournal.com/2009/01/the-oprah-factor-skype-edition.php> (noting Oprah Winfrey’s frequent use of Skype to bring guests onto her show remotely).



is the ability to both make and receive calls.<sup>19</sup> The idea that a service that does not have a “phone number” associated with it would serve as a replacement for a traditional phone service is far-fetched and certainly unsupported in the record. Though the *Notice* mentions that some outbound-only VoIP products allow users to identify a PSTN number for callback purposes, this example, as noted by the Information Technology Industry Council, “only serves to underscore that users have a primary telephone service . . . and that the outbound-only VoIP product is used as a complement to this primary service.”<sup>20</sup>

**B. A Detailed Survey of Skype Users Demonstrates That Skype Is Used as a Complement to Traditional Phone Services Rather Than as a Replacement Phone Service**

As noted above, thus far, neither the Commission nor other interested parties has provided evidence in the record that outbound-only VoIP products like Skype are used as replacement phone services, giving rise to a reasonable consumer expectation of emergency calling capability. Thus, there is no evidence in the record demonstrating the need for a change in policy, particularly one in which the Commission would be reversing course on its earlier definition of “interconnected VoIP” and expanding obligations to previously unregulated new technologies. Rather than simply rely on conjecture or unsupported

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<sup>19</sup> Vonage Comments at 13 (“[Outbound-only VoIP] offerings are certainly distinct from traditional phones if they cannot receive inbound calls.”).

<sup>20</sup> ITI Comments at 7; *see also* VON Coalition Comments at 8 (discussing the lack of utility of a number used for Skype caller ID for the purpose of E911 callback, and noting that a caller ID associated with a user’s mobile phone would simply get routed to a mobile phone that already has emergency calling capabilities).

assertions,<sup>21</sup> Skype conducted a survey of its users employing the Commission's proposed standard of consumer expectation. The survey confirmed that even using the Commission's own standard, Skype is used as it has been designed as a complement to, rather than a replacement for, "regular" phone services and does not give rise to consumer expectations of emergency calling.

In the third quarter of 2011, Skype engaged the public policy and market research firm Penn Schoen Berland ("PSB") to evaluate the ways Skype is being used by U.S. consumers.<sup>22</sup> PSB solicited feedback through an online survey from 1,001 Paying Skype Customers.<sup>23</sup> The key findings, discussed in more detail below, were as follows:

- Skype is used mainly as a *secondary* channel for personal and business communication.
- Skype is used primarily for international communications.
- Skype users are highly unlikely to replace their existing telephone services with Skype. Most other communication channels are unlikely to be

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<sup>21</sup> See note 13, *supra*.

<sup>22</sup> Skype had more than 170 million average monthly connected users globally for the three months ended 30 June 2011. This survey focused on U.S. users of Skype paid products, including outbound calling.

<sup>23</sup> Methodology: A quantitative survey was distributed online to 1001 individuals who purchase Skype's paid services (Calling phones and mobiles, online numbers, voicemail, etc.)

Confidence level: 90%

Demographics: Respondents were aged 18-75+, with over half of the individuals between the ages of 45 and 64.

replaced by Skype.

- Almost all Skype users have a mobile phone and/or traditional landline available for use at the location in which they use Skype
- A negligible amount of users trust Skype to call 911 and very few users would be likely to use the program to place an emergency call.

The results of the PSB study are summarized below:

1. *Skype Is a Secondary Channel for Personal and Business Communication*

When asked about the various channels they use for personal and business communication, almost three-quarters of survey respondents indicated they rely on personal cell phones (49%) or traditional landlines (24%) as the primary channel for personal communication. These figures reinforce the logical proposition that for “regular” phone service, Skype users rely on mobile phones and traditional landlines.

2. *When Skype is Used, it is Most Often for International Communications*

Survey respondents were asked to categorize their communication into personal and business categories, and these two categories were then divided geographically into domestic and international communication. According to the data, for personal use, Skype is used for 24% of domestic communications — a number that includes both outbound PSTN calls and Skype-to-Skype

computer-to-computer voice and video calls.<sup>24</sup> In comparison, personal cell phones and landlines are used for 45% and 22% of domestic communications, respectively. On the other hand, 78% of international communications were made via Skype<sup>25</sup> – the most popular option for personal, international communication.

For business purposes, Skype is used for 19% of domestic communications – third behind personal cell phones (27%) and work landlines (26%). Once again, even though most users' businesses were likely paying for their business international calls, Skype was nevertheless the most popular method of international business communication, with 48% of business international communications occurring via Skype.<sup>26</sup>

Thus, the study confirms that Skype users use the software more often for low-cost international communication than for domestic calls or as a replacement for "regular" phone service.<sup>27</sup>

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<sup>24</sup> Note that the number of Skype users purchasing credit to make outbound calls represents a fraction of the total number of Skype users, most of whom use the software for Skype-to-Skype voice and video calls exclusively. Specifically, of the 560 million registered Skype users worldwide, only 8.1 million use Skype's paid products, which include outbound PSTN calls from Skype software.

<sup>25</sup> Note that with respect to personal calls, 24% of respondents did not make international calls, and the 78% figure was derived from the percentage of Skype calls from among the 76% who made international calls.

<sup>26</sup> As with personal international calls, a large number of users – 42% – do not make business international calls. Of the 58% who made international business calls, 48% of the calls were made using Skype.

<sup>27</sup> See Verizon Comments at 5 (arguing that services such as Skype mobile™ that allow users to make only international calls should not be subject to emergency calling requirements).

3. *Skype Is a Complement to and Not a Replacement for the Telephone*

Most users report having a “traditional” form of phone service at the location in which they use Skype; 99% of users have a cell phone (personal or business) and/or a traditional landline (home or work) available for use. According to one probe, 76% of respondents declared that they use “a landline and/or cellphone as a primary means of making voice calls and Skype is only a complement to these services.” When asked if they plan to replace their personal cell phones or residential landlines with Skype in the next six months, a negligible number of users said yes (1 % and 6%, respectively, for cell phones and residential landlines).

The PSB study confirms that U.S. consumers are not replacing their traditional telephones with Skype. Instead, the study shows that Skype users use the software on devices that clearly differ from traditional voice communications technologies — for example, 86% of Skype consumers use the software most frequently on computers. Taken as a whole, these results demonstrate that Skype is not a replacement for regular phone service. Instead, Skype users use the software to complement their traditional phone subscriptions — to make international calls as described above and for computer-to-computer voice and video calls, for example.

4. *Skype Users Do Not Have an Expectation That They Can Call 911 From the Skype Software*

Whether at home, at work, or in transit, less than 5% of users indicate they would be likely to use Skype to place an emergency call — a negligible amount. Because Skype products have not been marketed, promoted or intended to replace “regular” phone service, Skype provides consumers clear and effective disclaimers to emphasize that Skype does not enable 911 calling.<sup>28</sup> Despite some of the concerns raised by some commenting parties, these disclaimers have largely worked — only 14% of users mistakenly believe that they can currently make emergency calls with Skype.<sup>29</sup>

5. *Skype Users Value the Mobility of Skype over the Ability to Call 911 Using Skype*

Skype users have a good understanding of the limitations of current location information technology and are more confident in using landline and mobile phones to call 911. In the study, respondents were asked to choose one device from a given list of communication services that they trust the most to make an emergency call. This list included personal or business cellphones, landlines at home or work, Skype, satellite phones, and video chat software.

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<sup>28</sup> The Skype web page describing the product that enables outbound calling from Skype to the PSTN includes the following disclaimer: “No emergency calls with Skype. Skype is not a replacement for your telephone and can't be used for emergency calling.” The same disclaimer is displayed prominently on the Skype homepage and throughout Skype’s website.

<sup>29</sup> Skype is committed to continuing to reduce consumer confusion, and as discussed below in Section III, urges the Commission to engage in a public education effort and appropriate disclosure requirements to eliminate any residual consumer confusion regarding emergency calling capability for non-interconnected VoIP.

Only 1% of respondents said they trust Skype the most to place an emergency call, whereas 98% of users reported trusting their landlines or cellphones the most in an emergency situation (62% of users for landlines and 36% for cellphones).<sup>30</sup>

Moreover, when Skype users understand the limitations and costs of enabling emergency calling for Skype outbound calling, they reflect an unwillingness to use Skype to call 911. When asked whether they would find it convenient to verify their address and location each time they use Skype from a different location, 60% of users responded that they would find it not very or not at all convenient to update their address and location information each time they log-on. When asked whether they would provide their cell phone number to enable 911 operators to call back and verify their exact location, most users found Skype's potential location-verification feature cumbersome and unappealing. Tellingly, after learning about the necessary service conditions and the potential fees, users were asked which communication device they would most likely use to call 911 in the event of an emergency — just 1% indicated Skype would be their option-of-choice.

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<sup>30</sup> In contrast, when the Commission first adopted E911 requirements for wireless carriers, one survey found that “62 percent of cellular users cited safety and security as their main reason for purchasing a mobile phone.” *Wireless E911 Order*, 11 FCC Rcd at 18,680.

**C. The Commission Should Maintain Its Existing Approach and Should Not Subject Non-Replacement Phone Services Like Skype to Emergency Calling Requirements**

When the Commission first adopted the “interconnected VoIP” definition in 2005 and required interconnected VoIP providers to offer emergency calling capability to their users, the Commission focused on whether the IP-enabled voice product was a replacement for “regular” phone service and not whether it interfaced with the PSTN in any way.<sup>31</sup> The record in this proceeding does not provide any reason for the Commission to depart from this approach. Consequently, the Commission should not require outbound-only VoIP products, which do not replace regular phone services, to provide emergency calling capability.

As discussed above, Skype is not a replacement phone service and is not viewed as such by Skype users. Consumers do not use Skype as an ordinary phone service; instead, they use Skype to complement their primary means of communication, most typically to place international calls. The PSB survey results discussed above demonstrate that Skype users view the software as a personalized communications product rather than a substitute for telephone service. It is for this reason that almost all Skype users — 99% — have access to either a cell phone or landline at the location at which they use Skype, and Skype

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<sup>31</sup> 2005 VoIP E911 Order, ¶ 23; ITI Comments at 5; VON Coalition Comments at 3-4.



users are very unlikely to use Skype for emergency calling even if Skype began offering such capability.

There is, therefore, no justification for requiring an outbound-only VoIP application like Skype to provide emergency calling capability. Though the number of Skype users who use outbound calling and Skype's revenues have grown since the Commission first adopted its IP-enabled E911 rules, this is because users value Skype's complementary features and not because users are replacing their wireless or wireline phone subscriptions with Skype. Moreover, given that the overwhelming majority of Skype users do not expect to use Skype to make emergency calls, requiring an outbound-only VoIP product like Skype to provide emergency calling capability will not result in meaningful benefits to consumers while imposing significant costs on industry and state and local public safety entities, disincentives to innovate, and, as discussed below, potential harm to consumer safety.<sup>32</sup>

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<sup>32</sup> ITI Comments at 9-11 (discussing significant costs of imposing emergency calling requirements on outbound-only VoIP); NCTA Comments at 10 ("Extending 911 requirements to outbound-only VoIP would require providers to develop and implement costly and complicated solutions in a challenging economy. To achieve these ends, moreover, providers would have to divert resources away from competition and innovation. Any such diversion would be unfortunate, since VoIP applications and technology are currently evolving in exciting ways, spurred by new entrants and by innovative offerings, including VoIP applications for mobile devices and as part of a suite of services offered by providers to customers."); VON Coalition Comments at 5-6 ("There is a real risk to innovation if the Commission concludes that mere inclusion of an incidental voice communication capability or consumer adoption of VoIP applications to complement their traditional voice services triggers 911 obligations on these innovative applications, products and services.").

### **III. REQUIRING OUTBOUND-ONLY VOIP TO PROVIDE EMERGENCY CALLING IS LIKELY TO HARM CONSUMER SAFETY BY SHIFTING EMERGENCY CALLING AWAY FROM MORE EFFECTIVE SOLUTIONS**

The survey data discussed in the previous Section leads to a clear conclusion: Skype does not replace regular phone service and users are unlikely to use Skype to place emergency calls. Nevertheless, some commenting parties argue that simply because Skype enables outbound PSTN calls, it should be required to provide emergency calling capability.<sup>33</sup> This argument ignores the significant costs associated with imposing such a requirement. Such costs include the costs to Skype and other outbound-only VoIP providers associated with implementing an emergency calling solution. These costs are significant for products such as Skype with very different revenue streams from traditional telephone services; Skype users typically pay intermittently and average annual payments that are a small fraction of what a provider of traditional phone service typically receives.<sup>34</sup> Given these costs, there is a significant risk of reduced innovation in the IP-enabled voice applications market, and potentially market exit of products that cannot justify the significant implementation cost given the expected revenue streams from such IP-enabled products.<sup>35</sup>

Perhaps the most significant cost of an emergency calling requirement for outbound-only VoIP, however, is the cost of consumer confusion, which could

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<sup>33</sup> APCO Comments at 2-3; NENA Comments at 1-4.

<sup>34</sup> See note 11, *supra*.

<sup>35</sup> ITI Comments at 11; VON Coalition Comments at 6-7.

ultimately harm consumer safety. As discussed above, the existing definition of interconnected VoIP drew a line between services that replace regular phone services and IP-enabled voice applications and services that differ from replacement phone services in significant ways and that serve as complements to traditional local phone services. Imposing emergency calling requirements on non-interconnected VoIP applications and products would upset settled consumer expectations and create confusion among customers as to which IP-enabled, non-replacement services are capable of making 911 calls and which are not. Such confusion could be especially true for Skype users, where users accustomed to using the software for computer-to-computer calls only may not differentiate between such a “pure” IP application and one that enables outbound PSTN calling — as discussed above, in most cases, PSTN calling is not the primary reason users use Skype.

The lack of a callback number will only add to consumer confusion. As the *Notice* indicates, Skype users who purchase credit for outbound calling have the option of associating a wireless phone number with their account; however, these optional, non-emergency solutions are not reliable enough for critical 911 calls. For example, Skype may be used on a desktop or laptop computer, smartphone, or other mobile device, and the most optimal callback number may be different for different locations. As another example, it is common for members of a family to share a Skype account to call friends and family internationally, and the

optimal callback number may vary depending on which user is using Skype. As the VON Coalition explained in its comments:

For example, in the United States, users of Skype's caller ID feature can choose to associate their mobile phone with their outgoing Skype calls. The purpose of the caller ID features is to enable the caller to identify him or herself to the called party, not to identify the location of the party. As a product that is used primarily for international calling, a Skype user is just as likely to be initiating a call from somewhere in the United States to a landline or mobile in London as he is to be calling from India back home to the United States. The caller ID merely notifies the called party who is calling. A call back from an emergency service provider to the mobile phone number provided as caller ID would simply go to the mobile phone – which already offers emergency calling capabilities. It would be difficult for the FCC to justify layering additional regulation on the one-way VoIP provider just because the VoIP provider offers its users the caller ID feature.<sup>36</sup>

The above examples highlight the main risk of requiring non-interconnected VoIP such as outbound-only VoIP to provide E911 capability, which is that it will cause a shift of consumer expectations away from reliable wireline and wireless telephone services toward solutions with a relatively unreliable registered location and an unreliable callback number — to say nothing of the inability to provide automatic location information<sup>37</sup> and the inherent unreliability of a call being delivered via the public, best-efforts Internet. As noted above, virtually all Skype users have either wireless or wireline

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<sup>36</sup> VON Coalition Comments at 8.

<sup>37</sup>Notice, ¶ 64 (noting consensus that “at this time there is no technological or cost-effective means to provide ALI for interconnected VoIP service providers”).

telephone services available at the location at which they use Skype. These “regular” phone services have more effective and reliable emergency calling capability, are familiar to public safety responders, and provide such responders with critical and reliable location and callback information.<sup>38</sup> Instead of shoehorning new, innovative technologies into the old, narrowband world, thus resulting in an unreliable emergency calling requirement for non-interconnected VoIP, the Commission should engage in a public education campaign — with appropriate disclosure requirements if necessary — to shape consumer expectations toward the use of existing, reliable emergency calling solutions.<sup>39</sup> At the same time, rather than diverting resources to ensuring compatibility with legacy systems, the Commission and industry can continue to focus on creating a next generation 911 network that will effectively accommodate these new

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<sup>38</sup> Vonage Comments at 13-15 (discussing the advantages of the reliable, CMRS-based 911 network vs. the drawbacks of 911 calling even for providers of interconnected VoIP, and noting that “[p]ublic safety will not benefit if consumers are induced to use less reliable 911 calling solutions instead of established wireless or wireline 911 services.”).

<sup>39</sup> Vonage Comments at 15 (“[A] better approach would be to ensure that consumers are educated on the importance of using their wireline or wireless phone to make emergency calls.”); VON Coalition Comments at 5-6 (“The VON Coalition urges the Commission to promote consumer education instead of straying from the useful standard of whether a service acts as a replacement for traditional telephone service and expanding its E911 requirements. . . . [T]he FCC should work with service providers to inform consumers about limitations of E911 capabilities in VoIP services, and instruct consumers which voice services may be used to access emergency assistance.”); *id.* at 7 (“[T]he Commission should reinforce consumers’ expectations by maintaining the clear definitions associated with providers who currently deliver emergency services connectivity: wireline, wireless, and interconnected VoIP providers.”); ITI Comments at 8. *See also Notice*, ¶ 42 (citing Comments filed by Texas 9-1-1 Agencies arguing that “vendors of [non-interconnected VoIP] services should be required to provide public education materials related to 9-1-1 limitations and work diligently with public safety and access network provider[s] . . . to minimize confusion . . .”).

innovative technologies and appropriately take advantage of the public safety benefits that can be derived from such a next generation network.

#### **IV. CONSUMERS THAT USE VOIP APPLICATIONS ON MOBILE DEVICES SHOULD BE FULLY PROTECTED**

Most outbound-only VoIP and other non-interconnected IP-based voice applications are used on a variety of different computing platforms, each presenting different challenges with respect to implementation of emergency calling capabilities. The discussion and the questions raised by the Commission regarding location-capable broadband voice technologies<sup>40</sup> such as CMRS voice and data networks demonstrate that one-size-fits-all solutions are not appropriate for all platforms, and that in some cases applications operating on such platforms can facilitate 911 calling.<sup>41</sup>

Skype usage on a mobile device highlights the irrationality of an emergency calling requirement for software applications like Skype. Every consumer using Skype on their mobile smartphone has access to E911, including automatic location capability, thanks to A-GPS or other capabilities of the handset and CMRS network.<sup>42</sup> Skype's mobile application designed for smartphones recognizes these existing capabilities, and is engineered to pass through any 911 calls erroneously made by users on the Skype application to the handset's native

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<sup>40</sup> Notice, ¶¶ 78-80.

<sup>41</sup> Verizon Comments at 5.

<sup>42</sup> Notice, ¶¶ 78-79.

dialer for completion of the emergency call via the existing CMRS connection. This solution ensures that even Skype users who may use Skype to place a 911 call can reach a PSAP, and this solution involves none of the risks identified above regarding unreliable location and callback information because the call travels over the existing CMRS network.

As Verizon argued in its comments:

Skype mobile™ users' 911 calls are completed via Verizon Wireless's CMRS network. Moreover, Skype mobile™ users are notified on their handset screen that "Calls to 911 will be completed by Verizon Wireless" as well as the fact that domestic calls are handled via Verizon Wireless's CMRS network and billed accordingly. Thus, there is no reason for services such as Skype mobile™ to be subject to new E911 requirements.<sup>43</sup>

For such smartphone applications, Skype supports a requirement that no application should interfere with a consumer dialing 911, so that wireless users can take advantage of their handsets' existing emergency calling capability. Consumers should be able to utilize their handset's existing E911 capability, and any voice applications running on such devices should be designed to hand off 911 calls to the underlying CMRS network to place the emergency call. As discussed above, the Commission's policies should push consumers toward the most reliable and effective way of placing an emergency call – here, the underlying CMRS E911 network rather than the much more unreliable wireless broadband network. As wireless smartphone use continues to grow, and as

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<sup>43</sup> Verizon Comments at 5.

consumers increasingly use apps like Skype on their smartphones, such a policy will ensure continued, reliable access to the E911 network.

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Respectfully submitted,

SKYPE COMMUNICATIONS S.A.R.L.

/s/Staci L. Pies

Staci L. Pies

*Director, Government and  
Regulatory Affairs –North America*

Christopher D. Libertelli

*Senior Director, Government and  
Regulatory Affairs –The Americas*

SKYPE COMMUNICATIONS S.A.R.L.

6e etage, 22/24 boulevard Royal,  
Luxembourg, L-2449 Luxembourg

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